## AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1.      (Currently Amended) In an electronic device that provides a graphical modeling environment, a method[[,]] comprising: ~~the steps of;~~

providing a first signal type for a signal in the graphical modeling environment; ~~and~~

defining a second signal type that inherits from the first signal type; and

registering at least one of the first and second signal types with a registry of the graphical modeling environment.

2.      (Original) The method of Claim 1, wherein said first signal type is associated with a block in the graphical modeling environment.

3.      (Original) The method of Claim 2, wherein said second signal type is associated with the block in the graphical modeling environment.

4.      (Original) The method of Claim 2, wherein said second signal type is associated with another block in the graphical modeling environment.

5.      (Currently Amended) The method of Claim 1, further comprising: ~~the steps of,~~

providing a block in the graphical ~~model~~ modeling environment having a structure and operation for operating on the first signal type;

receiving on an input node of the block a signal of the second signal type; and

processing a portion of the received signal in the block~~, wherein said block being free of structure and operation for operating on the second signal type~~.

6.      (Original) The method of Claim 5 wherein said input node comprises a graphically

rendered port viewable by a use of said graphical modeling environment.

7.      (Original) The method of Claim 1, wherein at least one of a signal of said first signal

type and a signal of said second signal type are visually depicted in the graphical modeling

environment.

8.      (Currently Amended) The method of Claim 1, wherein ~~the step of~~ defining <u>further</u>

<u>comprises:</u> ~~includes a step of a user~~

        defining the second signal type using an interface to the graphical modeling environment.

9.      (Currently Amended) The method of Claim 1, wherein the definition of the second signal

type is derived from ~~the~~ <u>one or more</u> components of the graphical modeling environment.

10.     (Currently Amended) The method of Claim 5, wherein ~~said step of processing comprises~~

~~the step of processing~~ the portion of the ~~second~~ <u>received</u> signal ~~of the second signal type~~ <u>that is</u>

<u>processed is</u> derived from the first signal type.

11.     (Currently Amended) The method of Claim 5, further comprising ~~the steps of~~:

        generating one or more signals of the first signal type using the block; and

        outputting the one or more signals of the first signal type from the block.

12.     (Currently Amended) The method of Claim 5<u>,</u> further comprising<u>:</u> ~~the steps of~~

generating one or more signals of the second signal type using the block; and

outputting the one or more signals of the second signal type from the block.


13.     (Currently Amended) The method of Claim 5, further comprising: ~~the steps of~~

generating one or more signals of a third signal type using the block; and

outputting the one or more signals of the third signal type from the block, wherein the

third signal type has a definition defining a class distinct from a class of the first signal type and

a class of the second signal type.


14.     (Original) The method of Claim 1, wherein the first signal type and the second signal

type each have one or more attributes.


15.     (Original) The method of Claim 1, wherein the first signal type and the second signal

type are each capable of including one or more methods.


16.     (Currently Amended) The method of Claim 1, further comprising: ~~the step of,~~

rendering on a display of the electronic device a first graphical form representing the first

signal type and a second graphical form representing the second signal type.


17.     (Currently Amended) The method of Claim 1, further comprising: ~~comprises the steps of~~

rendering on a display of the electronic device a first graphical form representing the first

signal type and the second signal type.


18.     (Original) The method of Claim 1, wherein each signal type comprises a class.

19.     (Original) The method of Claim 1, wherein each signal type comprises, a data structure

having one or more attributes, and a procedure structure having one or more methods.


20.     (Currently Amended) The method of Claim 1, further comprising: ~~the steps of~~

        instantiating the signal of the first signal type in the graphical modeling environment[[,]];

and

        restricting instantiation of a signal of the second signal type in the graphical modeling

environment.


21.     (Currently Amended) The method of Claim 1, further comprising: ~~the steps of~~

        instantiating the signal of the first signal type in the graphical modeling environment; and

        instantiating a signal of the second signal type in the graphical modeling environment.


22.     (Currently Amended) The method of Claim [[89]] 1, wherein the registry includes a

mechanism for use in describing the inheritance of the second signal type from the first signal

type.


23.     (Currently Amended) The method of Claim 1, wherein ~~the step of~~ defining further

comprises: ~~a step of~~

        defining the second signal type using a mechanism of a programming environment

distinct from the graphical modeling environment.

24.      (Currently Amended) In a graphical modeling environment, a method[[,]] comprising:

~~the steps of,~~

        providing a first object class that represents a first signal type;

        defining a second object class that inherits from the first object class; and

        instantiating an object of the second object class in representing a second signal type in

the graphical modeling environment,

        wherein the graphical modeling environment comprises a programming environment for

developing and performing scientific related functions.

25.      (Canceled)

26.      (Currently Amended) The method of Claim 24, further comprising: ~~the steps of,~~

        defining a third object class that inherits selected features from the first object class the

third object class representing a third signal type in the graphical modeling environment.

27.      (Currently Amended) The method of Claim 26, further comprising: ~~the step of~~

        instantiating an object of the third object class in representing the third signal type in the

graphical modeling environment.

28.      (Currently Amended) The method of Claim 24, further comprising: ~~the steps of,~~

        extending the second object class to include one or more features distinct from features

of the first object class in the graphical modeling environment.

29.       (Currently Amended) The method of Claim 28, further comprising: ~~the step of~~

instantiating an object of the extended second object class in representing a fourth signal

type in the graphical modeling environment.


30.      (Currently Amended) In an electronic device that provides a graphical modeling

environment, a method[[,]] comprising: the steps of,

providing two or more base object classes, each of the base object classes representing a

signal type;

defining a first object sub-class that inherits from at least two of the base object classes;

and

instantiating an object of the first object sub-class in representing a first signal in the

graphical modeling environment;

defining a second object sub-class that inherits from at least two of the base object

classes;

constraining one or more base class attributes in defining the second object sub-class;

and

instantiating an object of the second object sub-class in representing a second signal in

the graphical modeling environment.


31.      (Currently Amended) The method of Claim 30, wherein the instantiating of the object of

the first object sub-class representing the first signal in the graphical modeling environment is

performed in a selected block in the graphical modeling environment.


32.      (Canceled)

33.     (Currently Amended) The method of Claim [[32]] 30 further comprising: the step of

adding one or more features to the second object sub-class in defining the second object

sub-class.

34.     (Currently Amended) In an electronic device that provides a graphical modeling

environment, a method[[,]] comprising: steps of

        providing a first parent class that represents a first parent signal type;

        providing a second parent class that represents a second parent signal type; and

        defining a first derived class that inherits from the first and the second parent signal

class; and

        instantiating an object of the first derived class representing a derived signal type in the

graphical modeling environment.

35.     (Canceled)

36.     (Currently Amended) The method of Claim [[35]] 34, wherein the step of instantiating is

performed in a selected block in the graphical modeling environment.

37.     (Currently Amended) The method of Claim 34, further comprising: the steps of,

        defining a second derived class that inherits from at least two of the parent classes[[:]];

and

        constraining one or more parent class attributes in defining the second derived class in

the graphical modeling environment.

38.     (Currently Amended) The method of Claim 34, further comprising: ~~the step of~~

adding <u>one or more</u> features to the <u>first</u> derived class in defining the <u>first</u> derived class.

39.     (Currently Amended) The method of Claim 36, further comprising: ~~the steps of~~

defining a second derived class that inherits from one of the first and second parent

signal class; and

adding <u>one or more</u> features to the second derived class in defining the second derived

class.

40.     (Currently Amended) In an electronic device that provides a graphical modeling

environment, a method[[,]] comprising: ~~the steps of,~~

providing a first block that outputs an instance of a first object class that represents a first

signal type[[,]];

propagating the instance of the first object class from the first block to a second block in

the graphical modeling environment, the second block processing a feature of the first object

class; and

propagating from an output of the second block an instance of a second object class that

inherits from the first object class, wherein the instance of the second object class represents a

second signal type in the graphical modeling environment.

41.     (Currently Amended) The method of Claim 34, wherein ~~the one or more parent classes~~ <u>at</u>

<u>least one of the first parent class or the second parent class</u> are not visually depicted in the

graphical modeling environment.

42.    (Currently Amended) The method of Claim 34, wherein ~~the one or more parent classes~~ at least one of the first parent class or the second parent class are programmatically defined in an environment distinct from the graphical modeling environment.

43.    (Currently Amended) The method of Claim 40, further comprising: ~~the step of~~

propagating from [[an]] the output of the second block, an instance of a third object class that inherits from the first object class and adds other features, wherein the instance of the third object class represents a third signal type in the graphical modeling environment.

44.    (Currently Amended) The method of Claim 34, wherein ~~the one or more parent classes~~ at least one of the first parent class or the second parent class are programmatically defined in the graphical modeling environment.

45.    (Currently Amended) The method of Claim 34, wherein ~~the one or more parent classes~~ at least one of the first parent class or the second parent class are imported from an environment ~~from another~~ other than the graphical modeling environment.

46.    (Currently Amended) The method of Claim 40, further comprising: ~~the steps of,~~

propagating [[an]] the instance of the second object class from [[an]] the output of the second block to a third block in the graphical modeling environment, wherein the instance of the second object class representing the second signal type[[,]]; and

in the third block, processing a feature of the first object class inherited by the second object class.

47.     (Currently Amended) The method of Claim 46, further comprising: ~~the steps of,~~

        in the third block, processing the instance of the second object class to separate therefrom

the features inherited from the first object class; and

        propagating from an output of the third block an instance of the first object class in

representing the first signal type in the graphical modeling environment.


48.     (Currently Amended) The method of Claim 46, further comprising: ~~the steps of,~~

        defining a third object class that inherits from the first and second object classes; and

        instantiating an object of the third object class in the third block in representing the third

signal type in the graphical modeling environment.


49.     (Currently Amended) The method of Claim 40, further comprising: ~~the steps of,~~

        defining a third block in the graphical modeling environment;

        receiving at an input of the third block a signal type representing an instance of the

second object class; and

        in the third block, decomposing the instance of the second object class into one or more

signal components, each signal component representing instances of an object class to produce

signal types representing instances of the component object classes output from the third block.


50.     (Currently Amended) The ~~first~~ method of Claim 49, further comprising: ~~the step of~~

        in the third block, decomposing the instance of the second object class to produce a

signal type representing an instance of the first object class at a first output of the third block and

produce a signal type representing an instance of the second object class at a second output of

the third block.

51.     (Currently Amended) The method of Claim 40, further comprising: ~~the steps of:~~

defining a fourth block in the graphical modeling environment;

receiving at a first input of the fourth block a signal type representing an instance of the first object class;

receiving at a second input of the fourth block a signal type representing an instance of the second object class;

in the fourth block, instantiating an object of a third object class that inherits from the first and second object classes; and

representing an instance of the object of the third object class as a third signal type propagating from an output of the fourth block.


52.     (Currently Amended) A device readable medium holding device executable instructions for performing a method in a graphical modeling environment, <u>the method</u> comprising[[,]]<u>:</u>

defining a first signal type in the graphical modeling environment; ~~and~~

defining a second signal type that inherits from the first signal type, wherein said second signal type is programmatically defined in the graphical modeling environment<u>; and</u>

<u>rendering on a display of an electronic device a first graphical form representing the first signal type and a second graphical from representing the second signal type.</u>


53.     (Currently Amended) The ~~method~~ <u>medium</u> of Claim 52, <u>wherein the method further</u> <u>comprises:</u> ~~comprising the step of~~

saving at least one of the first and second signal types in a memory location accessible to the graphical modeling environment.

54.     (Currently Amended) The ~~method~~ medium of Claim 52, wherein the first signal type and the second signal type each have one or more attributes.

55.     (Currently Amended) The ~~method~~ medium of Claim 52, wherein the first signal type and the second signal type are each capable of including one or more methods.

56.     (Canceled)

57.     (Currently Amended) The ~~method~~ medium of Claim 52, wherein each signal type comprises an object class.

58.     (Currently Amended) The ~~method~~ medium of Claim 52, wherein each signal type comprises, a data structure having one or more attributes, each of the attributes are interpreted by each block in the graphical modeling environment based on a processing requirement of the block.

59.     (Currently Amended) The ~~method~~ medium of Claim 53, wherein each signal type comprises, a data structure having one or more methods, each of the methods being used by each block in the graphical modeling environment based on the processing requirement of the block.

60.     (Currently Amended) A device readable medium holding device executable instructions for performing a method in a graphical modeling environment, the method comprising[[,]]:

        creating a first class that represents a first signal type;

creating a second class that inherits from the first class; ~~and~~

instantiating an object of the second class in representing a second signal type in the

graphical modeling environment<u>;</u>

<u>creating a third class that inherits selected features from the first class; and</u>

<u>instantiating an object of the third class in representing a third signal type in the graphical</u>

<u>modeling environment.</u>

61.     (Canceled)

62.     (Currently Amended) The ~~method~~ <u>medium</u> of Claim 60, <u>wherein the method</u> further

~~comprising~~ <u>comprises:</u> ~~the steps of,~~

defining a fourth class to extend the second class; and

instantiating an object of the fourth class representing a fourth signal type in the

graphical modeling environment.

63.     (Currently Amended) A device readable medium holding device executable instructions

for performing a method in a graphical modeling environment, <u>the method</u> comprising[[,]]<u>:</u>

defining two or more base object classes, each of the base object classes representing a

signal type in the graphical modeling environment;

defining a first object sub-class that inherits from at least two of the base object classes;

~~and~~

instantiating an object of the first object sub-class in representing a signal type in the

graphical modeling environment<u>;</u>

<u>defining a second object sub-class that inherits from at least two of the base object</u>

<u>classes; and</u>

<u>constraining one or more base class attributes in defining the second object sub-class</u>.

64.     (Currently Amended) The ~~method~~ <u>medium</u> of Claim 63, wherein the instantiating of the object of the first object sub-class representing the signal in the graphical modeling environment is performed in a selected block in the graphical modeling environment.

65.     (Canceled)

66.     (Currently Amended) The ~~method~~ <u>medium</u> of Claim [[65]] <u>63,</u> ~~further comprising the step of~~ <u>wherein the method further comprises:</u>

instantiating an object of the second object sub-class in representing a signal type in the graphical modeling environment.

67.     (Currently Amended) The ~~method~~ <u>medium</u> of Claim [[65]] <u>63,</u> ~~further comprising the step of~~ <u>wherein the method further comprises:</u>

adding <u>one or more</u> features to the second object sub-class in defining the second object sub-class.

68.     (Currently Amended) A device readable medium holding device executable instructions for performing a method in a graphical modeling environment, <u>the method</u> comprising[[,]]<u>:</u>

providing a first block that outputs an instance of a first object class that represents a first signal type[[,]]<u>;</u>

communicating the instance of the first object class from the first block to a second block

in the graphical modeling environment, the second block processing a feature of the first object

class; and

in the second block, outputting an instance of a second object class that inherits from the

first object class, wherein the instance of the second object class represents a second signal type

in the graphical modeling environment.

69.      (Currently Amended) The ~~method~~ medium of Claim 68, wherein the method further

comprises: ~~comprising the step of~~

communicating from an output of the second block, an instance of a third object class

that inherits from the first object class and adds other features, wherein the instance of the third

object class represents a third signal type in the graphical modeling environment.

70.      (Currently Amended) The ~~method~~ medium of Claim 68, wherein the method further

comprises: ~~comprising the steps of,~~

communicating an instance of the second object class from an output of the second block

to a third block in the graphical modeling environment, wherein the instance of the second object

class represents the second signal type; and

in the third block, processing a feature of the first object class inherited by the second

object class.

71.      (Currently Amended) The ~~method~~ medium of Claim 70, wherein the method further

comprises: ~~comprising the steps of,~~

in the third block, processing the instance of the second object class to separate therefrom

the features inherited from the first object class; and

communicating from an output of the third block an instance of the first object class in

representing the first signal type in the graphical modeling environment.

72.      (Currently Amended) The ~~method~~ medium of Claim 70, <u>wherein the method</u> further

<u>comprises:</u> ~~comprising the steps of,~~

defining a third object class that inherits from the first and second object classes; and

instantiating an object of the third object class in the third block in representing ~~the~~ <u>a</u>

third signal type in the graphical modeling environment.

73.      (Currently Amended) The ~~method~~ medium of Claim 68, <u>wherein the method</u> further

<u>comprises:</u> ~~comprising the steps of,~~

defining an interface block in the graphical modeling environment;

receiving at an input of the interface block a signal type representing an instance of the

second object class; and

in the interface block, decapsulating the instance of the second object class to produce a

signal type representing an instance of the first object class at a first output of the interface block

and produce a signal type representing an instance of the second object class at a second output

of the interface block.

74.      (Currently Amended) The ~~method~~ medium of Claim 68, <u>wherein the method</u> further

<u>comprises:</u> ~~comprising the steps of;~~

defining a <u>third</u> block in the graphical modeling environment;

receiving at a first input of the <u>third</u> block a signal type representing an instance of the first object class;

receiving at a second input of the <u>third</u> block a signal type representing an instance of the second object class;

in the <u>third</u> block, instantiating an object of a third object class that inherits from the first and second object classes; and

representing an instance of the object of the third object class as a third signal type propagating from an output of the ~~joiner~~ <u>third</u> block.


75.     (Currently Amended) In a graphical modeling environment, a method comprising ~~the steps of~~:

providing a first signal type for a first signal in the graphical modeling environment, said signal type deriving from a parent signal type; ~~and~~

instantiating the first signal type in representing the first signal in a model in the graphical modeling environment<u>;</u>

<u>providing a block in the graphical modeling environment having a structure and operation for processing a second signal representing the parent signal type;</u>

<u>receiving the first signal at a port of the block; and</u>

<u>processing a portion of the first signal in the block using the structure and operation.</u>


76.     (Canceled)


77.     (Canceled)

78.     (Currently Amended) The method of Claim [[77]] 75, in which the block is connected to one of the first signal and the second signal by means of graphically rendered ports, wherein said graphically rendered ports include a graphical representation capable of being viewed by a user.

79.     (Currently Amended) The method of Claim [[77]] 75, in which a portion of the block is free of graphically rendered ports for connecting to one of the first signal and the second signal, wherein said portion of the block includes ports free of a graphical representation viewed by a user.

80.     (Currently Amended) A device readable medium holding device executable instructions for performing a method in a graphical modeling environment, the method comprising the steps of:

        providing a second signal type for a signal in the graphical modeling environment, said signal type deriving from a first signal type; and

        instantiating the second signal type in representing the signal in a model in the graphical modeling environment;

        providing a block in the graphical modeling environment having a structure and operation for processing a signal representing the first signal type;

        receiving the signal of the second signal type at a port of the block; and

        processing a portion of the signal in the block using the structure and operation.

81.     (Currently Amended) The method medium of Claim 80, wherein the signal in the model in the graphical modeling environment represents the first signal type.

82.    (Canceled)

83.    (Currently Amended) The ~~method~~ medium of Claim [[82]] 80, in which the block is connected to one or more of the first signal types and one or more of the second signal types by means of graphically rendered ports, wherein said graphically rendered ports include a graphical representation capable of being viewed by a user.

84.    (Currently Amended) The ~~method~~ medium of Claim [[82]] 80, in which a portion of the block is free of graphically rendered ports for connecting to one or more of the first signal types and one or more of the second signal, wherein said portion of the block includes ports free of a graphical representation viewed by a user.

85.    (Currently Amended) An electronic device for use in practicing a technical computing environment, the technical computing environment for developing and performing engineering and scientific related functions, the electronic device comprising[[,]]:

       an input device for use by a user; ~~and~~

       a graphical model environment providing a first signal type; and

       an interface responsive to inputs from the user to communicate with the graphical model environment to define a second signal type that inherits from the first signal type.

86.    (Previously Presented) The electronic device of Claim 85, further comprising a display device for viewing by the user, a graphical model having the second signal type.

87.    (Currently Amended) The electronic device of Claim 85, further comprising a registry to retain one or more class definition declarations of one or more signal types provided by the graphical model environment.

88.    (Previously Presented) The electronic device of Claim 85, wherein the graphical model environment provides a block having a structure and operation for processing a signal representing the first signal type, the block being capable of receiving a signal representing the second signal type at a port of the block and processing a portion of the signal representing the second signal type using the structure and operation for processing the signal representing the first signal type.

89.    (Canceled)